

IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
AUSTIN DIVISION

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Board of Regents, The University of Texas
System, and 3D Systems, Inc. §
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Plaintiffs §
§
§

v. §
§
§

Civil Action No. A03 CA 113 SS

EOS GmbH Electro Optical Systems §
§
§

Defendant §
§

EOS GMBH ELECTRO OPTICAL SYSTEMS'
PRELIMINARY STATEMENT OF NON-INFRINGEMENT AND INVALIDITY

I. INTRODUCTION

EOS Electro Optical Systems GmbH (“EOS”) provides this preliminary overview of its non-infringement and invalidity positions in response to this Court’s June 3, 2003 Order. The bases set forth below are not meant to be all-encompassing in view of the required summary format, the fact that this action has just been filed, and in view of no discovery having yet been taken or provided in this action.

II. THE PATENTS-IN-SUIT

The Board of Regents, the University of Texas System (“UT”) and 3D Systems, Inc. (“3D”) allege infringement of U.S. Patent No. 5,597,589 (the “‘589 Patent”) and U.S. Patent No. 5,639,070 (the “‘070 Patent”) in connection with EOS’s alleged sales of laser sintering machines in the United States. 3D holds rights under these Patents through merger with DTM Corp., which was licensed under the patents by UT. The ‘589 Patent pertains to apparatuses for producing a part from powder and the ‘070 Patent pertains to methods for producing a part from powder.

III. EOS DOES NOT INFRINGE ANY CLAIM OF THE PATENTS-IN-SUIT¹

A. EOS Is Licensed under the Patents-In-Suit

EOS has a paid-up written license under the patents in suit. EOS's long-existing license agreement with 3D covers all 3D patent rights relating to laser sintering. When 3D acquired DTM, the patents in suit fell under the EOS/3D license.

B. The EOS Machines and their Methods of Operation Do Not Infringe the Patents-In-Suit

The claims of the '589 and '070 Patents each require, *inter alia*, (1) temperature control means for moderating the temperature difference between unfused powder and the fused layers therebeneath; (2) means for directing a heated gas at the target surface; or (3) heating a layer of powder to moderate a temperature difference between the second layer of powder and fused portions of the first layer of powder therebeneath.² The Specification³ discloses only a single means for moderating temperature differences, which includes means for directing heated gas:

The downdraft system 132 broadly includes a support 134 defining target area 136, means for directing air to the target area, and a mechanism for controlling the temperature of the incoming air, such as resistance heater 142. *The air directing means includes chamber 138 surrounding support 134, fan 140 and/or vacuum 141.* A window 144 admits the aim of the beam 64 (FIG. 1) to the target area 136. A powder dispensing mechanism (not shown), such as illustrated in FIGS. 1 or 10 is disposed at least partially in the chamber 138 to dispense powder onto target area 136.

('589 Specification, at Col. 6, ln. 63 – col. 7, ln. 5) (emphasis added).

The Specification further recites the putative advantages of the disclosed means:

¹ The Complaint does not specify which claims of the patents-in-suit are allegedly infringed. The '589 Patent includes independent claims 1, 9 and 10, and the '070 Patent includes independent claim 1. Absent infringement of an independent claim, no claim depending therefrom may be infringed. Thus, EOS will only address the independent claims in this section.

² Only EOS's P-Series laser sintering machines have heaters (though the heaters do not moderate temperature differences between the part and the powder layer). Thus, no other EOS laser sintering machines will be discussed herein.

³ The '589 and '070 Patents have the same Specifications. For simplicity's sake, reference will be given only to the '589 Patent's Specification.

It has been found that a downward flow of controlled-temperature air through the target area is able to moderate such undesirable temperature differences. The controlled-temperature air downdraft system 132 of FIG. 11 reduces thermal shrinkage by providing heat transfer between the controlled-temperature air and the top layer of powder particles to be sintered. This heat transfer moderates the temperature of [sic] a the top layer of particles to be sintered, controls the mean temperature of the top layer, and removes bulk heat from the article being produced, thereby reducing its bulk temperature and preventing the article from growing into the unsintered material.

('589 Specification, at Col. 6, lns. 47 – 59) (emphasis added).

The EOS P-Series machines do not have temperature control means or means for directing a heated gas as disclosed, nor do the P-Series Machines moderate a temperature difference between unsintered powder and the sintered powder. The P-Series machines have radiant heaters, preferably of the infrared variety, disposed above the build platform to heat the deposited powder layer. The P-Series machines do not, however, direct or have any mechanisms to direct heated gas at the target surface. Because the P-Series machines do not so direct gas over the target site, they consequently do not remove bulk heat from the article being produced.⁴ There is no infringement, literally or by any equivalent.⁵

IV. THE PATENTS-IN-SUIT ARE INVALID

The asserted claims are all rendered invalid under 35 U.S.C. § 102(b) (in public use and printed publication) in view of the work of Carl Deckard and others affiliated with the University of Texas. Lab notebooks, videotapes, physical specimens and testimony all establish clear and

⁴ During the prosecution of both the '589 and '070 patents, the Applicant argued at every turn that removal of bulk heat was included in moderating the temperature difference.

⁵ Because the P-Series machines lack means for directing heated gas, they also lack “exhaust means” for exhausting the heated gas as required by independent claims 9 and 10 of the '589 Patent. There are additional bases for non-infringement in view of missing elements in the claims, such as the “means for dispensing layers of powder,” but these need not be addressed in detail at this early time, since only one missing element is sufficient to establish non-infringement.

convincing evidence of this. Furthermore, the claims of the Patents cannot claim an effective filing date earlier than its predecessor Continuation in Part application filed October 5, 1987.

Other prior art directly bearing upon the invalidity of various of the asserted claims includes:

- U.S. Patent No. 4,818,562 to Arcella *et al.*, which discloses a method of producing a part by fusing layers of powder with a laser beam. Heated gas fluidizes the powder and deposits it on the target site. The gas heats the powder and moderates the temperature difference between the powder and the part.
- U.S. Patent No. 4,752,352 to Feygin discloses a method of producing a part from layers of powder by sintering with a laser beam. The topmost layer is heated, which moderates the temperature difference between the topmost layer and the previously sintered layer.
- Manufacturing Technology Review, Vol. 2, May 27-29 (1987) discloses preheating a substance in the LAYERGLAZE method in order to alleviate the problem of thermal expansion mismatch.
- Japanese patent application no. JP 57-160975, which discloses selectively sintering a powder layer with a laser beam where the powder can be preheated by auxiliary heating.

In short, all of the Claims of the patents in suit are invalid in view of one or more of the foregoing.

V. THIS IS AN EARLY OVERVIEW FOR THE COURT

Discovery has not commenced, and this action is at a very incipient stage. EOS plainly has and reserves the right to supplement and expand upon the foregoing. This includes defenses of invalidity based upon failure to meet the best mode requirement of 35 U.S.C. § 112, a barring offer for sale, and inequitable conduct before the United States Patent & Trademark Office, all of which require discovery of information solely within the control of Plaintiffs.

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CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing was provided to counsel of record by the method indicated below on this the 19th day of June 2003:

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